## Site Safety Plan US Coast Guard Ship LST 1166

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## Site Safety Plan US Coast Guard Ship LST 1166

July 18, 2008

Job #8508305

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## A. Site Description

Ship LST 1166 is located on the Columbia River approximately three miles west of the Lewis and Clark Bridge. The vessel is anchored with the working barge attached to the west. The barge will act as the support zone for any personnel going to and from the vessel.

Hazards: The potential chemical hazards are as follows:

Hydrocarbons

PCB's

Mercury (there may have been mercury switches on board)

Please see attached Material Safety Data Sheets for the above listed substances.

Asbestos - A licensed Asbestos contractor has been hired for asbestos removal.

12 foot depth of urethane foam

44 drums – contents unknown

The "Boomer" vessel will be used in the event of emergency decontamination and emergency evacuation. In the event emergency decontamination is required, the vessel is equipped with a shower, and will be moored at the work site.

In the event of an emergency, air horns will be used to notify personnel of evacuation. The "Boomer" vessel will be used to evacuate all personnel.

## General Safety Hazards:

Experience has shown that job-site safety during clean-up operations is frequently a problem. Fall/trip issues are especially important in vessels. Vessels at the end of their life are inherently

dangerous work sites; failure to implement and enforce an adequate safety program could lead to injury or fatality.

Numerous Slip/Trip/Fall Hazards. The ship has been decommissioned for many years. The ship will be boarded by scaffolding built by Safway Scaffolding. The decks have not been maintained and numerous transients have been aboard, scavenging metal and other saleable parts. There are several levels to the ship, with many holes where metal has been removed.

Access to the ship will be via a gangway erected by Safway Scaffolding. Due to the nature of working on the water, there may be a hazard associated with tide and the rise and fall of the scaffolding when other marine craft go by the work area. This hazard has been taken into consideration when erecting the scaffolding.

Hatch covers: The hatch covers pose an additional safety hazard. They shall be secured in a manner that will ensure they cannot be closed or fall on technicians during the clean up operation.

## Oil and Grease (hydrocarbons) - see attached MSDS

The aim of hydrocarbon clean-up is to remove liquid hydrocarbons (fuels, oils) that could escape into the environment. All liquid hydrocarbons are to be removed and semisolids (greases) either removed or contained.

All filling stations or deck fittings that were used for receiving fuels, oils, or other hydrocarbons are to be opened and cleaned.

Structure: All access panels, explosion doors, handhold doors, maintenance panels, gear covers, bearing covers/retaining plates, etc are to be removed. Visible oil is to be removed from all components.

#### Mercury – see attached MSDS

Equipment or components using mercury are to be removed intact, if possible, from the vessel. Any other visible mercury is to be removed from the vessel.

## Polychlorinated Biphenyls (PCBs) - see attached MSDS

Liquid polychlorinated biphenyls are to be removed from the vessel. The following suspect components are to be removed:

Fluid filled transformers.

Fluorescent light ballasts.

Electronic components that may be fluid filled, based on their external appearance.

PCBs held in solid matrix may be difficult to detect from visual appearance. For vessels constructed before 1980, the following items must be removed.

Oil impregnated felt or cloth gasket material.

Other materials as specified.

## **Plastics and Other Synthetic Materials**

Plastic and other synthetic materials are to be considered vessel debris and shall be removed.

#### Debris

Clean-up debris must be removed from the vessel. The standard of cleanliness required is broom clean. There can be no vessel debris contaminated with hydrocarbons or hazardous material.

## **Asbestos Containing Materials**

Asbestos-containing material (ACM) shall be removed from the ship by a certified asbestos removal company.

Surro	ounding Population Industrial Residential Rural Unpopulated	(check those that apply) Other (specify):	
	Topography (check all the	at apply)	
	Rocky Sandy beach Docks Cliffs	Marshes Other (specify)	
	Weather Related Hazards	check all that apply)	
	Heat stress Frostbite Hypothermia Severe storms Fog Other (specify):		
В.	Entry Objectives		
	Site surveys Mechanical clean Oil Recovery Booming Bioremediation	Dispersant application  Wildlife rehabilitation / hazing  Other related activities (specify):	

Note: Detailed objectives shall be developed daily, and shall be described during the pre-entry safety briefing.

## C. Site Organization

Incident Commander:

Site Safety and Health Officer:

FOSC:

SOSC:

**Operations Section Chief:** 

Planning Section Chief:

Logistics Section Chief:

JIC Representative:

Contractors on Site:

Other Fed / State / Local Reps:

#### D. Site Control

- 1. Anyone entering or departing a WORK AREA, or associated control zones, shall report to the site supervisor.
- 2. No person shall enter a site without subscribing to this or another approved Site Safety and Health Plan.
- 3. No person shall enter site without adequate training in hazardous waste operations safety and health; based on work assignment and applicable hazardous conditions.
- 4. Site Boundaries. Control boundaries have been established in the site safety map below.
- 5. The site safety map includes items such as: zone boundaries, washing, toilet / hygiene facilities, first aid, equipment staging / storage, eating / restoring areas, animal rehabs / hazing stations and locations of identified hazards.
- 6. Site Safety Map (below / attached)

#### E. Hazard Evaluation

- CHEMICAL HAZARDS (check appropriate category of oil or attach appreciate MSDS, if available).
  - Oils containing benzene, including: crud gasoline, military JP4, commercial JET B, aviation gasoline, gas oils, and feed stocks.
  - Composes of an indefinite petroleum distillate mixture. May contain benzene, toluene, xylene, napthalenes, and PolyAromatic Hydrocarbons (PAHs) in concentrations that may vary depending on the source of the oil, weathering and aging.
  - 2) HAZARD DESCRIPTIONS: May cause dermatitis by skin contact; nausea by inhalation; and eye irritation. Benzene is a hematological toxin (it affects the blood and blood forming organs), and is a carcinogen. The most important potential hazard with benzene, toluene, or xylene is in poorly ventilated areas (such as pits or under docks), or around freshly spilled oil. Benzo(a)pyrene becomes more concentrated because it evaporates much slower than other chemical in the mixture.
  - 3) BASIC PRECAUTIONS: Stay away or upwind of fresh oil spills. Wear chemical resistant clothing as necessary to protect against skin and eye contact; periodically change protective clothing that has oil on it. Immediately change clothing that is showing evidence of oil pertaining to your skin. Wash skin with soap and water prior to changing into street clothes and before eating / drinking, or when exiting to a non-contaminated area. Flush eyes with water if oil gets in them for a minimum of 15 minutes. If ingested, do not induce vomiting. Contact a physician immediately. Urine phenol should be tested as soon as possible (and not later than 72 hours after exposure) if there is a suspected overexposure to benzene. Urine specific gravity should be corrected to 1.024 for this test. If urine phenol values exceed 75 mg per liter, further testing accordance with 29 CFR 1910.102(I)(4) may be needed, and individuals must be removed from areas of potential benzene exposure until values return to normal.

Oil not containing benzene, including: kerosene, diesels, military JP5, commercial JET A

- 1) Composed of an indefinite petroleum distillate contact typically including PolyAromatic Hydrocarbons (PAHs). The concentration of these products will vary widely depending on the source of the oil, weathering and aging.
- 2) HAZARD DESCRIPTION: May cause dermatitis by skin contact; nausea by inhalation and eye irritation by contact. Benzo(a)pyrene is a skin contact hazard and potentially any cause skin cancer with chronic skin contact
- 3) BASIC PRECAUTIONS: Wear chemical resistant clothing as necessary to protect against skin and eye contact; periodically change protective clothing that has oil on it. Immediately change clothing that is showing evidence of oil pertaining to your skin. Wash skin with soap and water when changing into street clothes and before eating / drinking, or when exiting to a non-contaminated area. Flush eyes with water if oil

	them for a minir t a physician imme		If ingested, do	not induce vomiting.
Biore are in use.	emediation applica	ation. See attached M	SDS information	when these products
Dispeare in use.	ersant application	s. See attached MSD	S information wh	nen these products
	-	n: poison well gas, so g gas and sulfur hydrid		hydrosulfuric acid,
e a d ("	eggs. Although the good warning leadens the sens	e smell may be detect property because ex e of smell. Hydroger	ted at very low o posure to dang n sulfide is found	that smells like rotten oncentrations, it is not lerous concentrations in certain crude oils organic materials (i.e.
() a d a p	concentrations. A Concentrations result on the concentration in the contraction in a rational fixture of the contraction in a central nervous	t higher concentration sulting in respiratory in ne lungs). It is also manner similar to cyar ent, staggering gait, d system depressant,	s, it is irritating t rritation may cau a chemical asph nide. Other effe iarrhea, fatigue, and high conce	ne eyes even at low to mucus membranes. Use pulmonary edema myxiant, which causes cts include headache, and insomnia. H2S is entrations may cause effects, H2S is also a
		OSHA PEL: OSHA STEL: IDHL	10ppm 15ppm 100ppm	
		Flammable Range	4.0 to 44%	
0 0 0	or electronic conc concentrations ab- contained breathin	entration meters or d ove exposure limits,	osimeters to mo positive pressure used. For very	mits. Use colorimetric onitor exposures. For e supplied air or self- high concentrations in
r	espiration, as nee	oosures includes wa eded. IT IS ESSENTI SUSPECTED OVERE	AL THAT MEDI	eyes, and support CAL TREATMENT IS
monitoring in accordar	shall be conducte	d. Monitoring equipm	ent shall be calil	RDS: The following prated and maintained ent shall be calibrated
Combusti	ible cas	continuous.	hourly.	OTHER:

2.

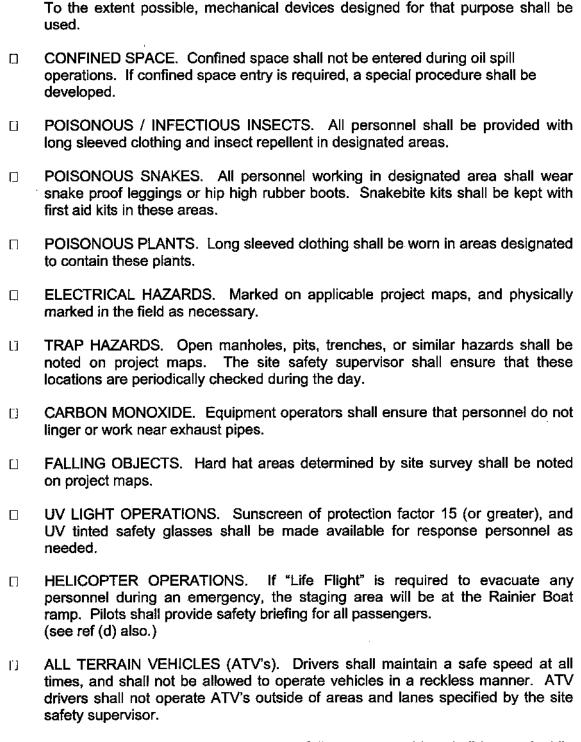
Oxygen	continuous,	hourly,	OTHER:
Carbon Monoxide	continuous,	hourly,	OTHER:
Hydrogen Sulfide	continuous,	hourly,	OTHER:
Benzene	continuous,	hourly,	OTHER:
OVA	continuous,	hourly,	OTHER:
WBGT	continuous,	hourly,	OTHER:
Noise	continuous,	hourly,	OTHER:
OTHER:	continuous,		OTHER:
OIDEK.	conunuous,	hourly,	OTHEN

3. Additional hazards may be encountered on site and shall (along with any other applicable hazards found during the site survey) be marked on the attached maps.

## F. General Site Safety and Health Procedures. Amended August 20, 2008

- □ LIGHTNING. Note, if you can hear thunder there is danger of lightning strikes in your area. All personnel, except security, shall stop operations on the LST 1166 and move to the working barge. Secure all electrical appliances. If the danger of lightning strikes persist all personnel, except security, shall depart the work site. Security shall continue operations with caution.
- □ HIGH WINDS. In the event of high winds the crane supervisor shall determine if it is safe to continue crane operations. If winds generate excessive ship and/or package movement, crane operations shall stop.
- GENERAL SAFETY CONCERNS. If any personnel does not feel safe at any time operations shall stop until the situation has been assessed and has been cleared by the Safety Officer.

	ral Site Safety and Health Procedures. The following controls shall be observed appropriate).
П	BUDDY SYSTEM. Personnel must work within sight of a partner at all times.
П	OCCUPATIONAL MEDICAL MONITORING. Personnel shall be enrolled in an occupational medical monitoring program in accordance with 29 CFR 1910.120.
□ avail	FIRES. A fully charged Class A fire extinguisher for ordinary fires shall be able on site
Π	SLIPPERY ROCKS AND SURFACES. All personnel in the work area shall wear rubber safety boots with steel toe/shank and textured bottoms. Boat crew may substitute clean deck shoes with textured soles kept free of oil on cloth/leather uppers.
	MUD. Dangerous mud flats posing a trap hazard shall be designated on the site safety map as areas off limits to personnel. Mark these locations with banner tape, barricades, or other marking equipment.
	LIGHTING. Fixed or portable lighting shall be maintained for dark areas or work after sunset. Sufficient illumination shall provide at minimum to meet the requirements of Table H-120 (Minimum Illumination Intensities) of 29 CFR 1910.120(m).
Π	WORK NEAR WATER. All personnel working in boats, on docks, or within ten feet of water shall wear Coast Guard approved personal flotation devices (PFDs). (See ref (d) also.) PFD's must be buckled when worn.
	HEAT STRESS. The site safety supervisor shall generally be guided by the ACGIH guidelines in determining work/rest periods. (see ref (d) for more details.)
	COLD STRESS. The site supervisor shall generally be guided by the ACGIH guidelines in determining work/rest periods. Workers shall be provided with adequate warm clothing, rest opportunities, exposure protection, warm and/or sweat fluids shall also be available during rest periods. For prolonged water temperatures below 59 °F, or a combined water and air temperature less than 120 °F, exposures suits shall be worn by personnel working/traveling in small boats or aircraft over water, and immersion suits shall be available for vessel operations other than small boats.
	HIGH NOISE LEVELS. Hearing protection shall be used in high noise areas (exceeding 84 dBA – generally where noise levels require personnel to raise their voiced to be heard) designated by the sight safety supervisor.
	DRUM HANDLING. Drums and containers must be handled in accordance with 29 CFR 1910.120. Containers must be labeled and constructed in accordance with EPA (40 CFR 2654-265, and 300), and containing waste materials shall be constructed to contain spillage, run-off, or accidental releases or materials. Manual lifting and handling of drums and containers shall be kept to a minimum.



- G. Personal Protective Equipment (PPE). The following ensembles shall be used while on site.
  - 1) If designated "as needed" the equipment does not need to be worn unless the item is needed to keep oil off or clothing and skin.

- 2) The SITE SAFETY SUPERVISOR may modify ensembles on a case-by-case basis as approved by the Sector/Site Supervisor.
- 3) Different operations may require different ensembles of the same level. For example: Crews in boots may require a different level D ensemble than those conducting an oil recovery on shore. (In this case, a separate level D sheet should be developed for each operation).
- 4) The following PPE ensembles have been designated for general use (ensembles may be modified as describes above):

## **LEVEL D**

	Oper		Vhich This Level D Ensemble Applies: Pump fuel bris pick up from the top deck and surrounding areas		from	all t	anks	and
	ĽI		eralls long sleeved coveralls (poison plant areas). short sleeved coveralls (heat stress alert).		OTES: "as ne		d" me:	ans
to u	ıse wl	nen OPTION	street clothing may only be worn by personnel not		and ir		h a w	ay
ехр	osed	to splashir	ng liquids or oil equipment.		preve skin c oil.	nt si		
		Rubber St	eel toe/shank safety boots with textured bottoms.	•	"rubbe			
		OPTION:	hip high rubber boots (e.g.; designated snake areas)	١.	mater	ial w		ant
		OPTION:	deck shows with textured soles (e.g.; boat operation	s).		ratin r clo ents	th	he
			oves (as needed). leather gloves (if no contact with oil).		under	neai	ın.	
			ain Pants (as needed). disposable if oiling is light.					
	П		in jacket & hood (as needed). Disposable if oiling is light.					
	נו		oron (as needed). disposable is oiling is light.					
		PFD (all po	ersonnel on or within ten feet of water).					
	[_]	Quart bottl	le to carry fluids (during heat stress alerts).					
		Hearing pr	rotection (in noisy areas).					
	П	Hard hat (	all personnel in designated areas).					
			sses (as required by Site Safety Officer). with tinted lenses (as required for sunlight or glare).					
	Π	Flashlight	(mandatory for anyone going below the top deck).					
		Whistle (in	designated areas).					

Opei	ration for Which This Level C Ensemble Applies: The majority of the remaining work will be performed in Level C PPE. This includes but is not limited to Hydroblasting or pressure washing; removing the urethane from the lower level of the ship; any confined space work, given acceptable air monitoring levels. Technicians and other employees who are performing a brief inspection of work or are supervising are not required to wear a full face respirator during the inspection.
Π	Rubber gloves (MANDATORY).
П	Plastic rain pants (MANDATORY).  OPTION: disposable if oiling/contamination is light.
П	Plastic rain jacket with hood (MANDATORY).  OPTION: disposable if oiling/contamination is light.
	Respiratory protection  Full face respirator  Half mask respirator  Organic Vapor cartridge  Dust, fume, mists cartridge  HEPA filter  Paint spray combination cartridge  Other:
П	Additional eye/face protection Safety Glasses Goggles Face Shield Other:

## LEVEL B

Op	peration for Which This Level B Ensemble Applies: Sampling of all unknown container and drums.
	Rubber gloves and inner latex gloves (MANDATORY).
П	Acid Suit (MANDATORY).  OPTION: May be downgraded to two piece raingear depending on the contaminant.
	Respiratory protectionSCBA or SAR
	Flashlight (mandatory for anyone going below the top deck).

## NOTES:

- "as needed" means to use when and in such a way so as to prevent significant skin contact with oil.
- "rubber" means chemical resistant material which resists oil penetration to the skin or cloth garment underneath.

#### H. Decontamination Procedures.

- 1. Personnel with contaminated clothing and equipment shall leave the Work Area by following the prescribed decontamination below.
  - a. Wipe off oil equipment and PPE clothing / an emergency decontamination shower is available on the "Boomer" vessel.
  - b. Inspect PPE clothing for rips or other damage. Inspect the inside of PPE clothing for signs or oil penetration. Discard if damaged or oil penetration observed.
  - c. Store oily equipment in contaminated equipment storage.
  - d. Discard oily articles in appropriate trash bins.
  - e. Remove, clean, and inspect respirators.
  - f. Store cleaned respirators in respirator storage.
  - g. Place cloth coveralls in laundry basket or discard if excessively dirty.
  - h. Wash face and hands with soap and water.
- Sanitation and Personal Hygiene: Potable water, non-potable water, toilets and personal hygiene facilities shall be provided in accordance with 29 CFR 1910.120(n). See appendices for more details.

#### J. Night Operations

	All working vessels shall have appropriate lighting.
П	All wrecked vessels shall have appropriate lighting.
	All staging and decontamination areas shall have adequate lighting.
Π	All personal shall work in teams of not less than two people at all times.

## K. Emergency Procedures:

- 1. In all cases when an on site emergency occurs, personnel shall not re-enter the work area or restart work until:
  - → the condition resulting in the emergency has been investigated by supervisory personnel, and has been corrected;
  - → hazards have been reassesses:
  - → the site safety plan has been reviewed; and

- → site personnel have been briefed on any charges in operation and site safety plan.
- 2. Emergency Medical Procedures:
  - → REMAIN WITH YOUR ASSIGNED BUDDY/PARTNER AT ALL TIMES.
  - → Use emergency signal to call for assistance if necessary.
  - → Do not attempt to move seriously injured personnel, call for an ambulance to come to the injured person.
  - → Report all injuries to your supervisor.
- 3. Emergency Fire Procedures:
  - → REMAIN WITH YOUR ASSIGNED BUDDY/PARTNER AT ALL TIMES.
  - → DO NOT attempt to fight fires other than small fires. A small fire is generally considered to be a fire in the early stages of development, which can be readily extinguished with personnel and equipment in the immediate area in a few minutes.
  - → YOU MUST sound the appropriate fire signal if fire can not be put out immediately.
  - → Alert nearby personnel to call fire department.
  - → Notify supervisor and Site/Sector Recorder.
  - → When the fire alarm is sounded, personnel shall immediately leave the work area WITH THEIR ASSIGNED BUDDY/PARTNER, to the designated entry/exit point and SITE/SECTOR RECORDER for role call.
  - → The Site/Sector Supervisor or the Fire Department shall ensure that the fire is extinguished and a temporary fire watch has been posted BEFORE restarting work.

#### L. Communications

2.

1. General Signals:

Radio Communications:

- a. A whistle shall be treated as needed for assistance.
- b. Repeated short blasts from a hand held airhorn shall be used to indicate a fire emergency.

	Working Frequency:	channel: (	VHF
UHF)	· ·		

	UHF)	Emergency Frequency:	channel: (	_VHF
	UHF)	Frequency:	channel: (	_VHF
	UHF)	Frequency:	channel: (	_VHF
	ŪHF)	Frequency:	channel: (	_VHF
	ÜHF)	Frequency:	channel: (	_VHF
	UHF)	Frequency:	channel: (	_VHF
	UHF)	Frequency:	channel: (	_VHF
3.	Phone Communicati	ons:		
	Incident Commande	r (RP):		
		(voice / cell / pag	jer	)
	Site Safety and Hea	th Officer:		
(voice / cell / pager			)	
	Federal On-Scene C	Coordinator:		
(voice / cell / pager			)	
	State On-Scene Coo	ordinator:		
		(voice / cell / pag	jer	)
Agency for To	xic Substance and Di	isease Registry (ATSI	OR) - (404) 639-0615	i – 24 hrs. (voice)

ATSDR can provide emergency medical and toxicological information, assist in determining procedures for potential chemical overexposure, and con provide on scene assistance for certain chemical emergencies.

Police:

	(voice / cell / pager	)
Fire:		
	(voice / cell / pager	)
Ambulance / EMT / F	Hospital:	
	(voice / cell / pager	)
	(voice / cell / pager	)
	(voice / cell / pager	)
	(voice / cell / pager	
Other Non-Emergen	ncy Numbers:	
	(voice / cell / pager	)
	(voice / cell / pager	)
	(voice / cell / pager	)
	(voice / cell / pager	)
	(voice / cell / pager	)
	(voice / cell / pager	)
	(voice / cell / pager	)
	(voice / cell / pager	)
work assignment. At accomplished, discus	gs. Site safety meetings shall be held by the Site Safety personnel prior to each new shift or before beginning a at a minimum, these meetings will describe the work to be use any safety procedure changes, note any items that news and any other safety related issues.	new
Authorizations/App	provals	
• •		

Date:	Date:	
Federal On-Scene Coordinator:	State On-Scene Coordinator	
Date:	Date:	

## **Site Safety Plan Attachments**

Attachment (1): Site Map(s) - Mandatory

# Attachment (2) General Signs / Symptoms That Indicate Potential Toxic Exposures:

- Sudden weight loss or change in appetite
- Unusual fatigue or new sleeping difficulties
- ♦ Unusual irritability
- Skin rashes / allergies / sores
- Hearing loss
- Vision loss / problems
- Changes in sense of smell
- Shortness of breath / asthma / cough / or sputum production
- Chest pains
- ◆ Nausea / vomiting / diarrhea / constipation
- Weakness / tremors
- Headaches
- Personality changes

Vessel Transportation:	Vessel:	
Date:		
Personnel transported:	Time Out to Ship:	Return Time:
	<del></del>	